

Date: Wednesday, 4/4/2007 8:57:11 AM
 User: Kim Johnston

Process Sheet

Customer : CU-DAR001 Dart Helicopters Services	Drawing Name : LEFT ARM WELDMENT
Job Number : 31588	
Estimate Number : 12080	
P.O. Number : <i>N/A</i>	Part Number : D33543
This Issue : 4/4/2007 S.O. No. : <i>N/A</i>	Drawing Number : D3354 REV. B
Prsht Rev. : NC	Project Number : N/A
First Issue : <i>N/A</i> Type : MACHINED PARTS	Drawing Revision : B
Previous Run : 31586	Material : <i>N/A</i>
Written By : <i>[Signature]</i>	Due Date : 4/11/2007 Qty: 4 Um: Each
Checked & Approved By : <i>[Signature]</i>	
Comment : est rev A 06.01.23 new issue EC	

Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :
---------	-----------------------	---------------

1.0	M4130NR1250	4130N ROUND BAR
-----	-------------	-----------------



Comment: Qty.: 0.6300 f(s)/Unit Total : 2.5200 f(s)
 AISI 4130 ROUND BAR 1.250" dia. batch: *1104182*

DIP 07/07/27

2.0	HARDINGE	HARDINGE CNC LATHE SMALL
-----	----------	--------------------------



Comment: 1-TURN AS PER FOLIO FA623 & DWG D3354

FOLIO REV: *AA*

DWG REV: *3*

2-DEBURR AS REQUIRED

DIP 07/07/27

④

3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE
-----	-----	--



Comment: INSPECT PARTS AS THEY COME OFF MACHINE

DIP 07/07/27

④

4.0	MILLING CONV.	CONVENTIONAL MILLING MACHINE
-----	---------------	------------------------------



Comment: CONVENTIONAL MILLING MACHINE

1-Drill cotter pin hole as per dwg D3354

2-Debur

SA 010802

④

5.0	QC8	SECOND CHECK
-----	-----	--------------



Comment: SECOND CHECK

SA 010802

④

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes ☒ No ☐ DQA: E Date: 07/08/07

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 4/4/2007 8:57:11 AM
User: Kim Johnston

Process Sheet

Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: LEFT ARM WELDMENT

Job Number: 31588

Part Number: D33543

Job Number:



Seq. #:

Machine Or Operation:

Description :

6.0

PACKAGING 1

PACKAGING RESOURCE #1



Comment: PACKAGING RESOURCE #1

Identify and Stock

Location: _____

7/8/3 4X SP

7.0

QC21

FINAL INSPECTION/W/O RELEASE



(14)

Comment: FINAL INSPECTION/W/O RELEASE

2007/08/07

Job Completion



7/07-08-03

Dart Aerospace Ltd

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD		Work Order:	31588
Description: Wheel Shaft		Part Number:	D3354-3
Inspection Dwg: D3354	Rev: A B	Page 1 of 1	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
7.04	+/-0.030	7.0435	✓			
4.020	+0.010/-0.000	4.020	✓			
0.85	+/-0.030	0.845	✓			
0.06	+/-0.030	0.06	✓			
0.13	+/-0.030	0.13	✓			
Ø1.250	+0.001/-0.004	1.248	✓			
Ø1.103	+0.001/-0.002	1.103	✓			
0.760 Thread	+/-0.010					
0.03 x 45°	+/-0.030 x 0.5°	.03 x 45	✓			
Ø0.152	+0.005/-0.001	.151	✓			
R0.02	+/-0.030	0.015	✓			
R0.050	+/-0.010	0.05	✓			
0.660	+/-0.010	.660	✓			
Ø0.152	+0.005/-0.001					
Thread .7438	±0.0047	0.7445	✓			

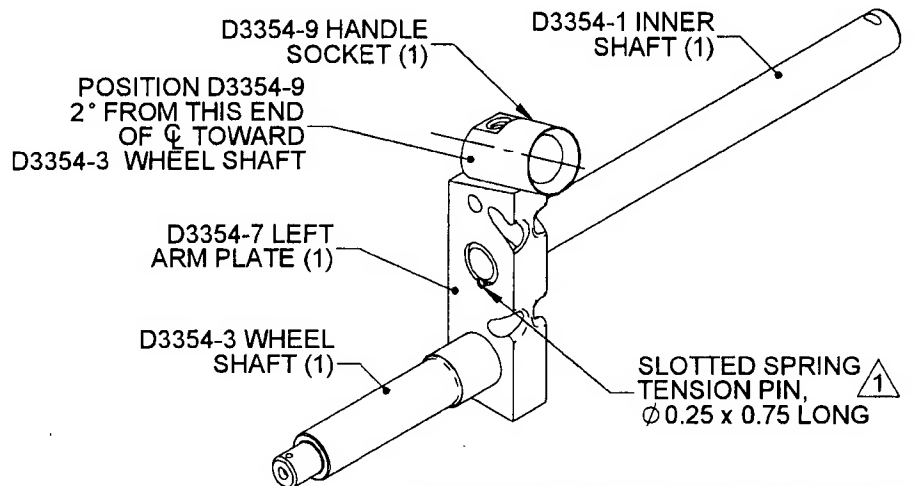
Measured by: DSP	Audited by: S, P	Prototype Approval:	N/A
Date: 07/07/27	Date: 07/09/02	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	07.01.17	New Issue	KJ/JLM	

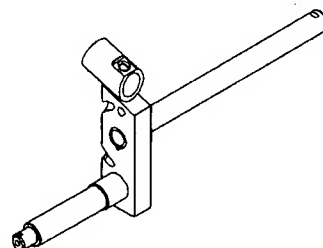


DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. LEFT ARM WELDMENT	REV. B SHEET 1 OF 7
DATE 07.02.02	TITLE D3354	SCALE 1:4	
REV	DATE	DESCRIPTION	
A	04.12.13	NEW ISSUE	
B	07.02.02	REVISED DIMENSIONS	

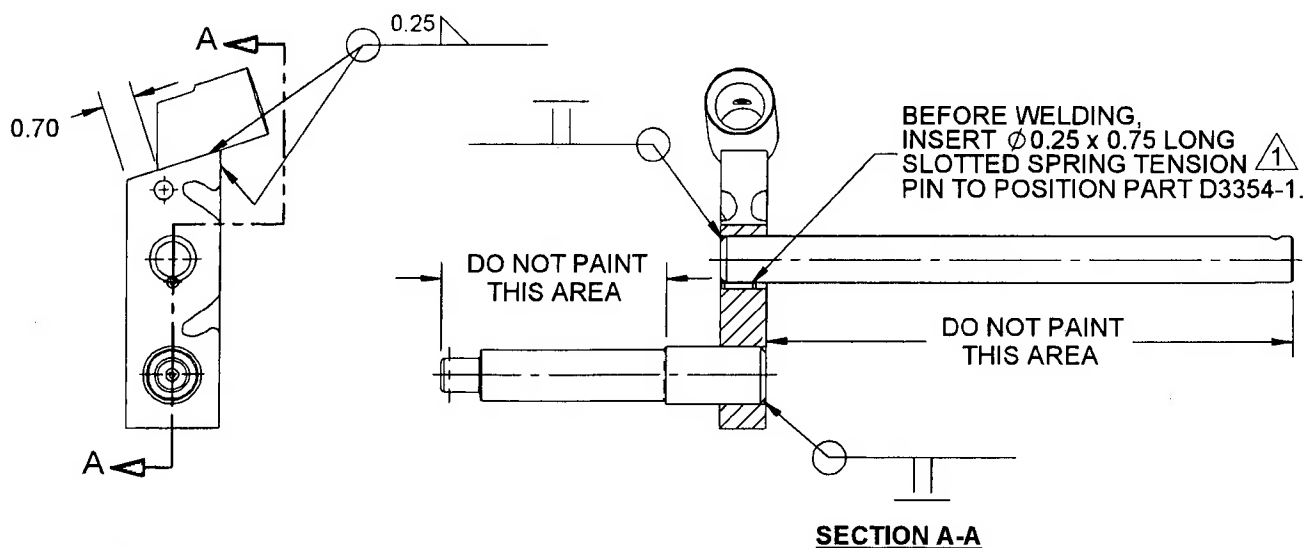
RELEASED
[Stamp] 07.02.02



D3354-041 LEFT ARM WELDMENT



D3354-042 MIRROR ARM WELDMENT



NOTES:

- 1) POSSIBLE SUPPLIER: SPAENAU, P/N TP-134
- 2) WELD PER DART QSI 004
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

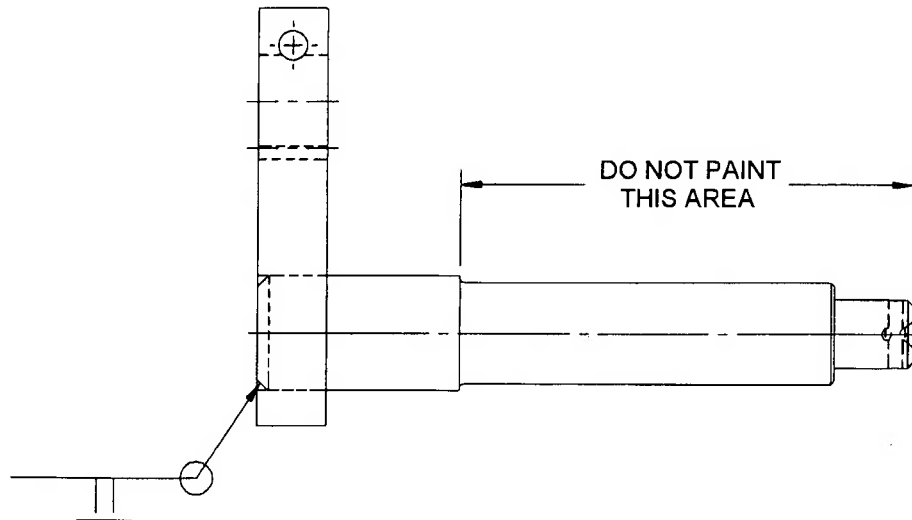
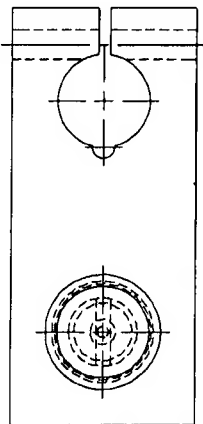
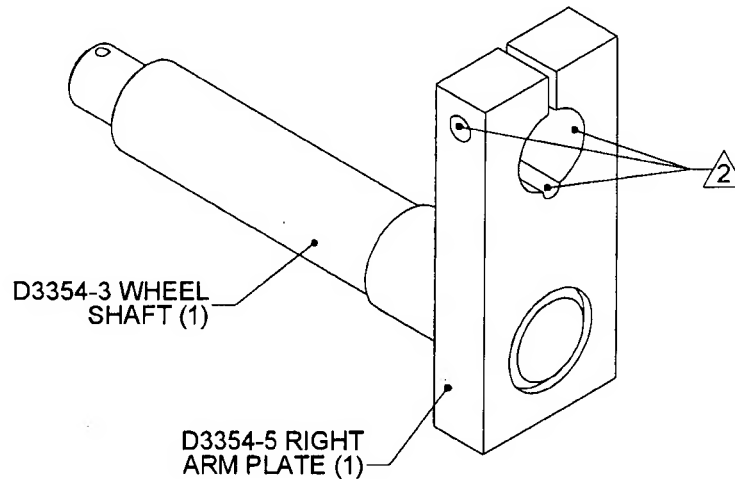
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **31588**

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. B SHEET 2 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
[Signature] 07.02.02**D3354-043 RIGHT ARM WELDMENT****NOTES:**

- 1) WELD PER DART QSI 004
- 2) COVER INSIDE HOLES PRIOR PAINTING
- 3) FINISH: POWDER COAT PAINT FIRE RED (4.3.5.10) PER DART QSI 005 4.3 WITHOUT NOTICE
- 4) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 5) ALL DIMENSIONS ARE IN INCHES
- 6) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WORK ORDER
NO. 31588

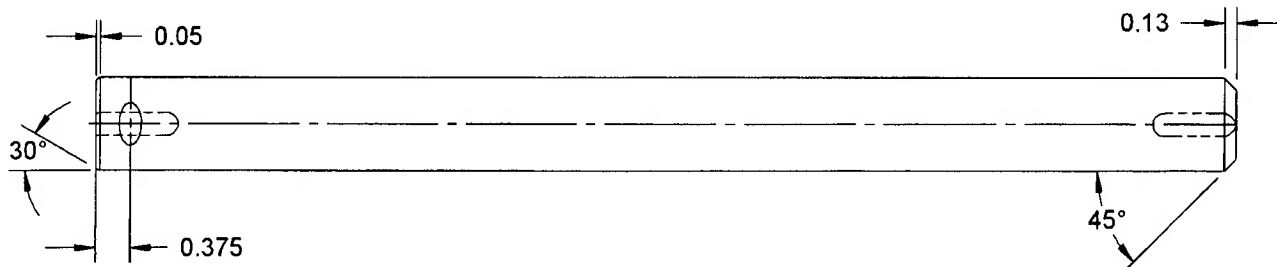
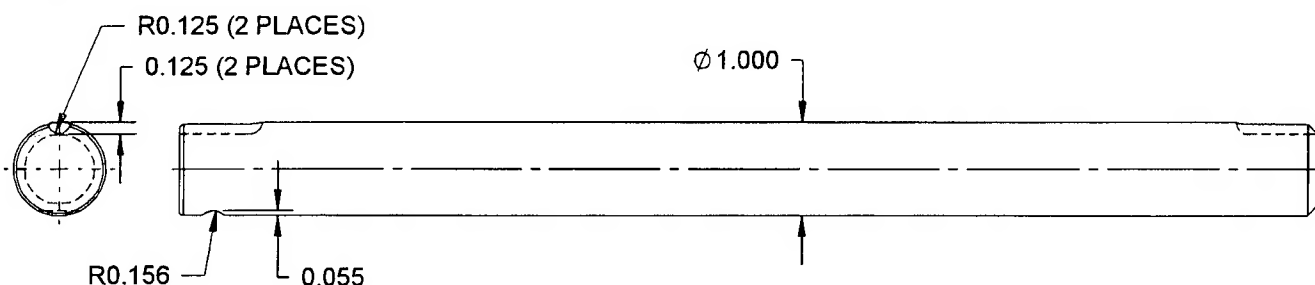
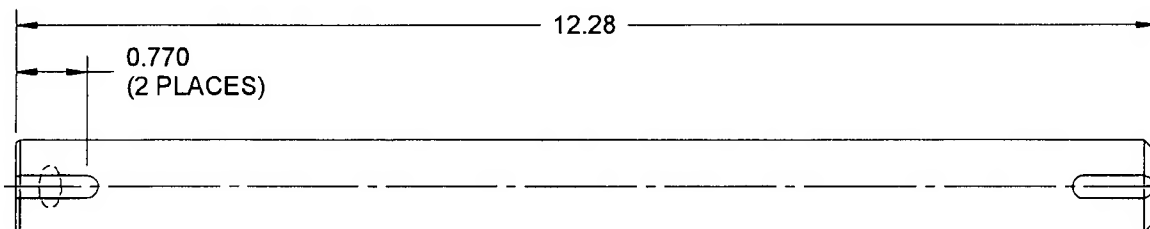
COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. B SHEET 3 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
[Signature] 07.02.02



D3354-1 INNER SHAFT

NOTES:

- 1) MATERIAL: AISI-4140 OR ASTM A304-02/ A-434-BC/ A193-03 - GRADE-B7/ A29-08/A322-09 OR UNS#-G41400 ROUND BAR, $\phi 1.250$ (REF. DART SPEC. M4140H-R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.010

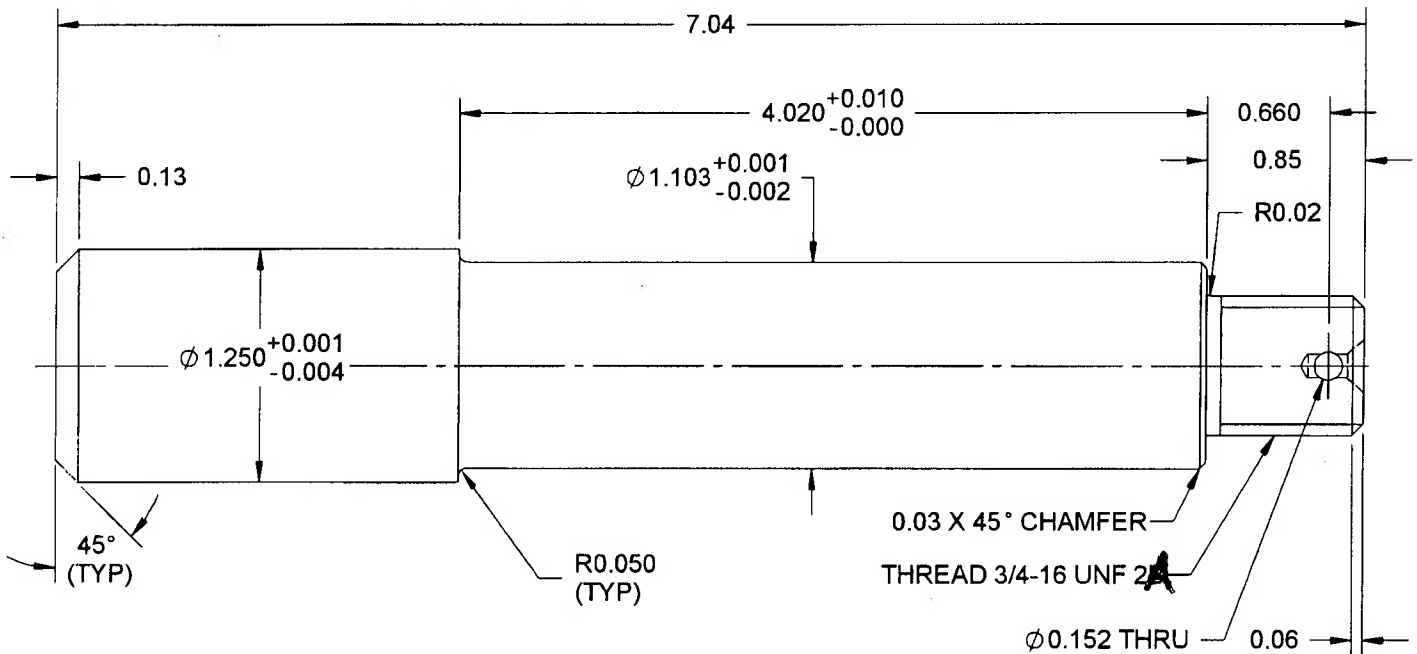
SHOP COPY
RETURN TO
ENGINEERING
CONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 31588

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>RF</i>	DRAWN BY <i>13</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>hah</i>	APPROVED <i>hah</i>	DRAWING NO. D3354	REV. B SHEET 4 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:1

RELEASED
07.02.02**D3354-3 WHEEL SHAFT****NOTES:**

- 1) MATERIAL: AISI-4130/ AISI-4140 OR ASTM A304-02/ A-434-BC/ A193-03 - GRADE-B7/A2903/A322-91 OR UNS#-G41400 ROUND BAR, $\phi 1.250$ (REF. DART SPEC. M4140H-R)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

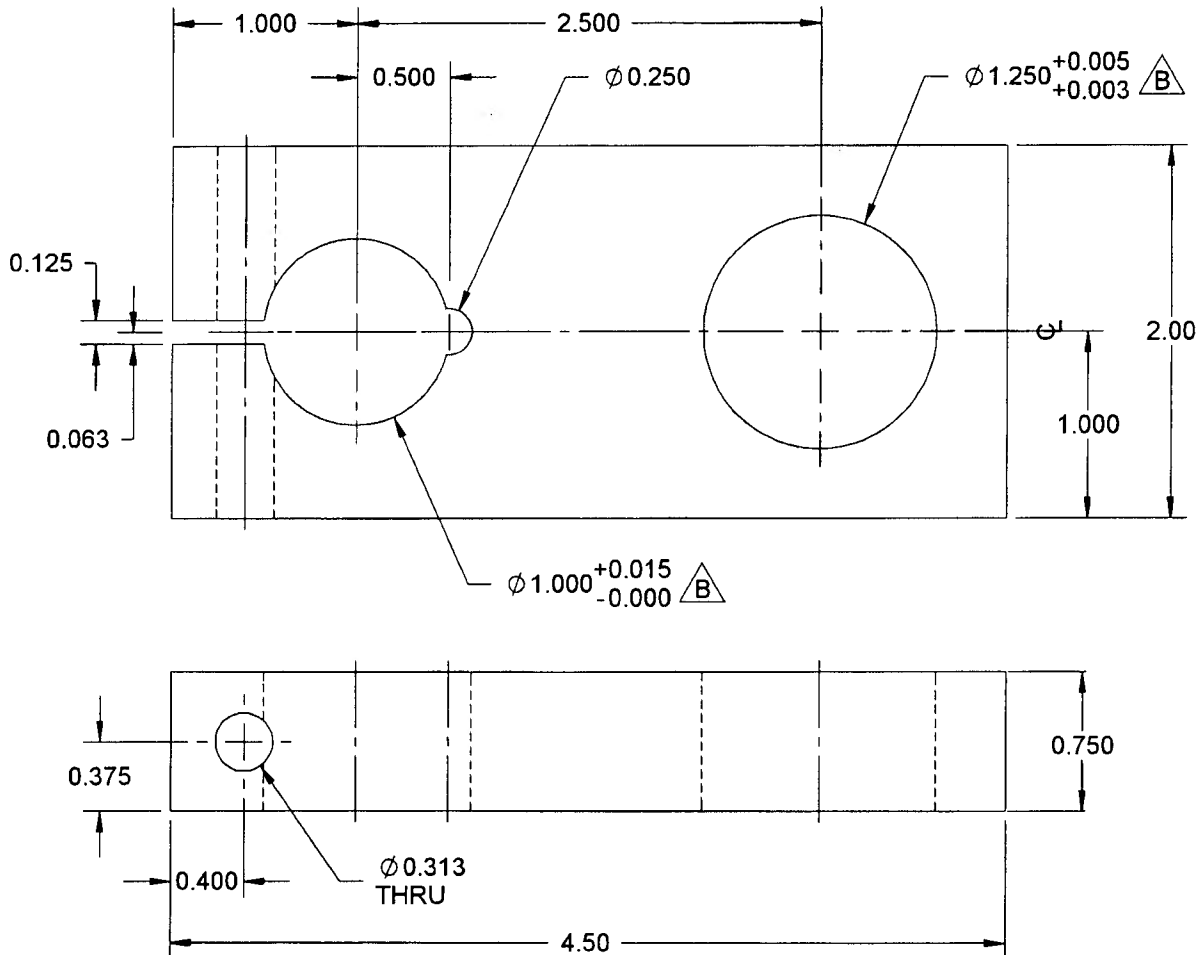
SHOP COPY
RETURN TO
ENGINEERING
CONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 31588

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>RF</i>	DRAWN BY <i>B</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. B SHEET 5 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:1

RELEASED
07.02.02**D3354-5 RIGHT ARM PLATE****NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 0.75 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

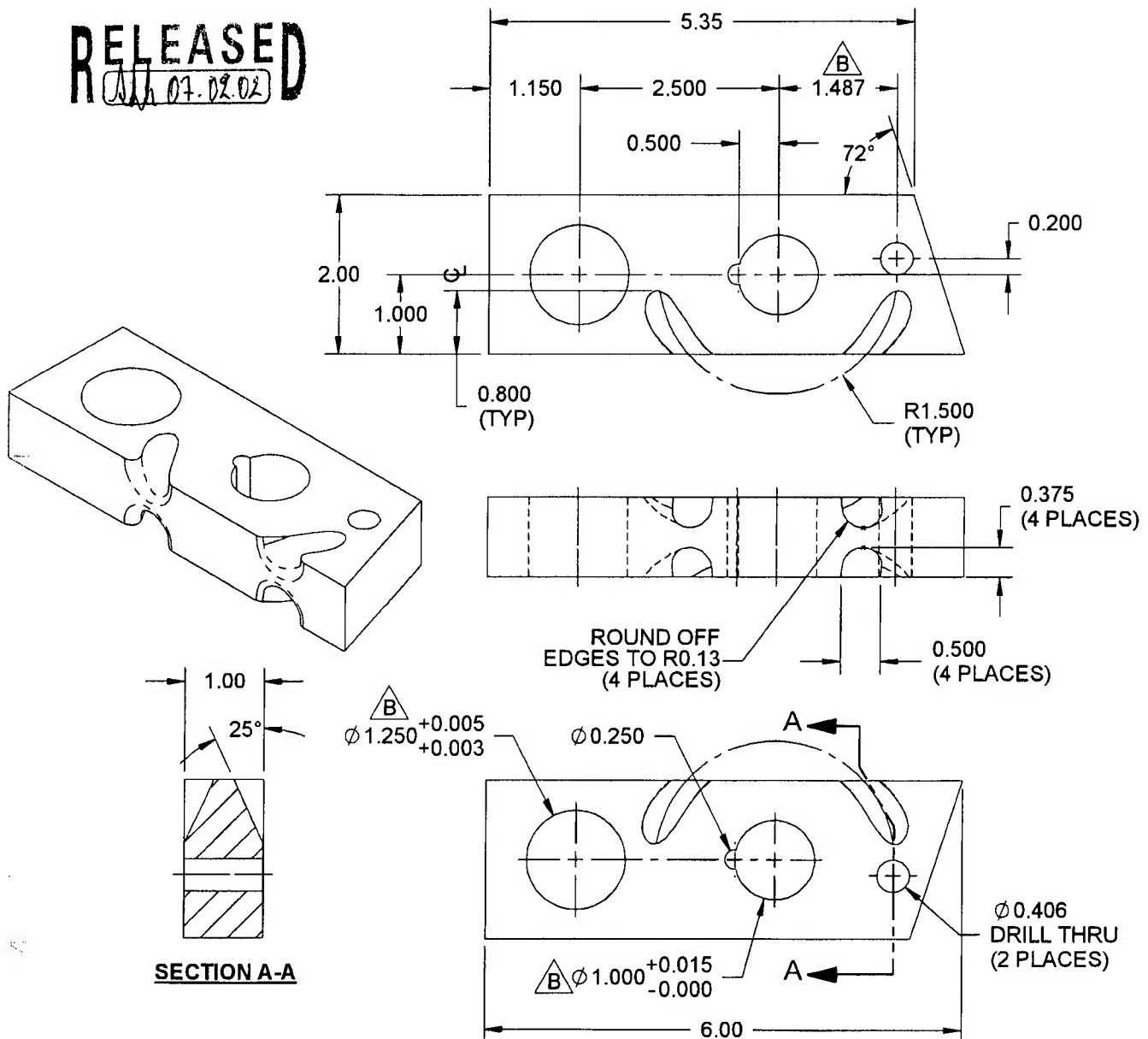
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **31588**

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. B SHEET 6 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:2

RELEASED
[Signature] 07.02.02**D3354-7 LEFT ARM PLATE****NOTES:**

- 1) MATERIAL: AISI 1010-1025 OR ASTM A36/A366/A569/A570 OR CSA G40.21, 38W/44W/50W/60W/70W, 1.00 THICK MILD STEEL BAR (REF. DART SPEC. M1010-B)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

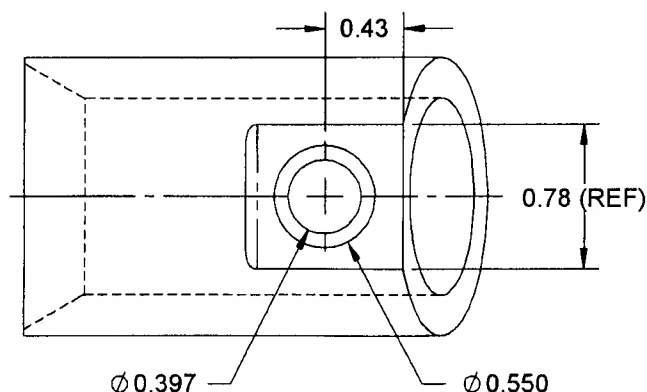
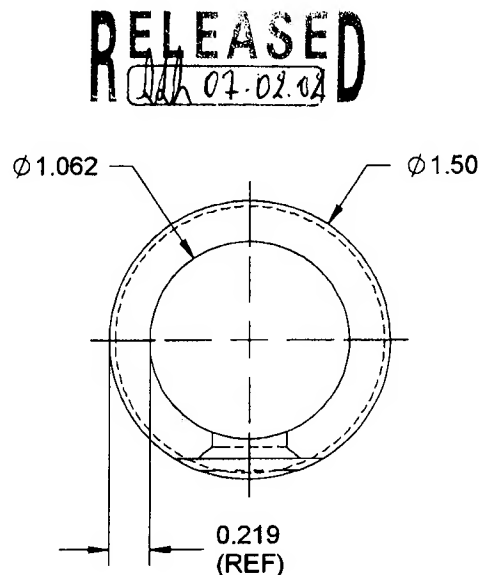
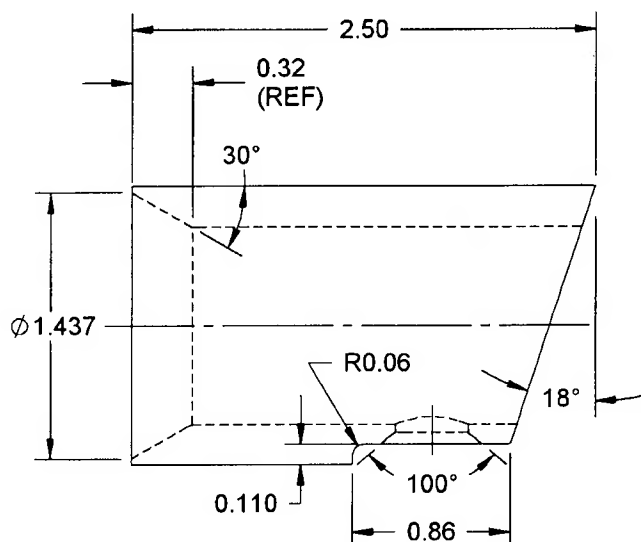
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **31588**

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.



DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3354	REV. B SHEET 7 OF 7
DATE 07.02.02		TITLE LEFT ARM WELDMENT	SCALE 1:1



D3354-9 HANDLE SOCKET

NOTES:

- 1) MATERIAL: AISI 1010-1025 SEAMLESS ROUND TUBING PER MIL-T-5086 OR
ASTM A513-00 MT1020 SRA OR AMS 5075 OR AMS 5077,
(REF. DART SPEC. M1020TR1.250W.219)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.010 TO 0.020

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. **31588**

COPYRIGHT © 2004 BY DART AEROSPACE LTD

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.